

3R - 179

# REPORTS

DATE:

2003

**Certified Mail: #7002 0510 0000 0307 7497**

February 26, 2004

RECEIVED

MAR 03 2004

Mr. William C. Olson  
New Mexico Oil Conservation Division  
1220 St. Francis Dr.  
Santa Fe, NM 87504

Oil Conservation Division  
Environmental Bureau

**RE: 2003 Pit Project Annual Groundwater Report**

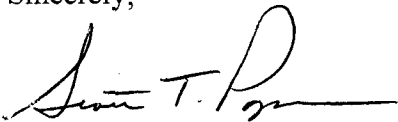
Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual reports for the 24 remaining groundwater impacted sites that were identified during our pit closure project of 1994 / 1995.

EPFS has organized the 24 Annual Reports (Volumes 1, 2 and 3) by land type. Volume 1 contains Annual Reports for sites found on Federal land. Volume 2 contains Non Federal sites and Volume 3 contains sites on Navajo land. Of the 24 reports submitted, EPFS is requesting closure of one site located on Navajo lands (Jennepah #1). EPFS understands closure of groundwater sites on Navajo lands falls under jurisdiction of the Navajo Nation Environmental Protection Agency and original documents have been submitted to them for review. Other Navajo sites are included in the report for your information.

If you have any questions concerning the enclosed reports, please call me at (505) 599-2124.

Sincerely,



Scott T. Pope P.G.  
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Certified Mail # 7002 0510 0000 0307 7473**  
Mr. Bill Liesse, BLM - w / enclosures (federal sites only), **Certified Mail # 7002 0510 0000 0307 7466**

**2003 ANNUAL GROUNDWATER REPORT  
NON-FEDERAL SITES VOLUME II**

**EL PASO FIELD SERVICES**

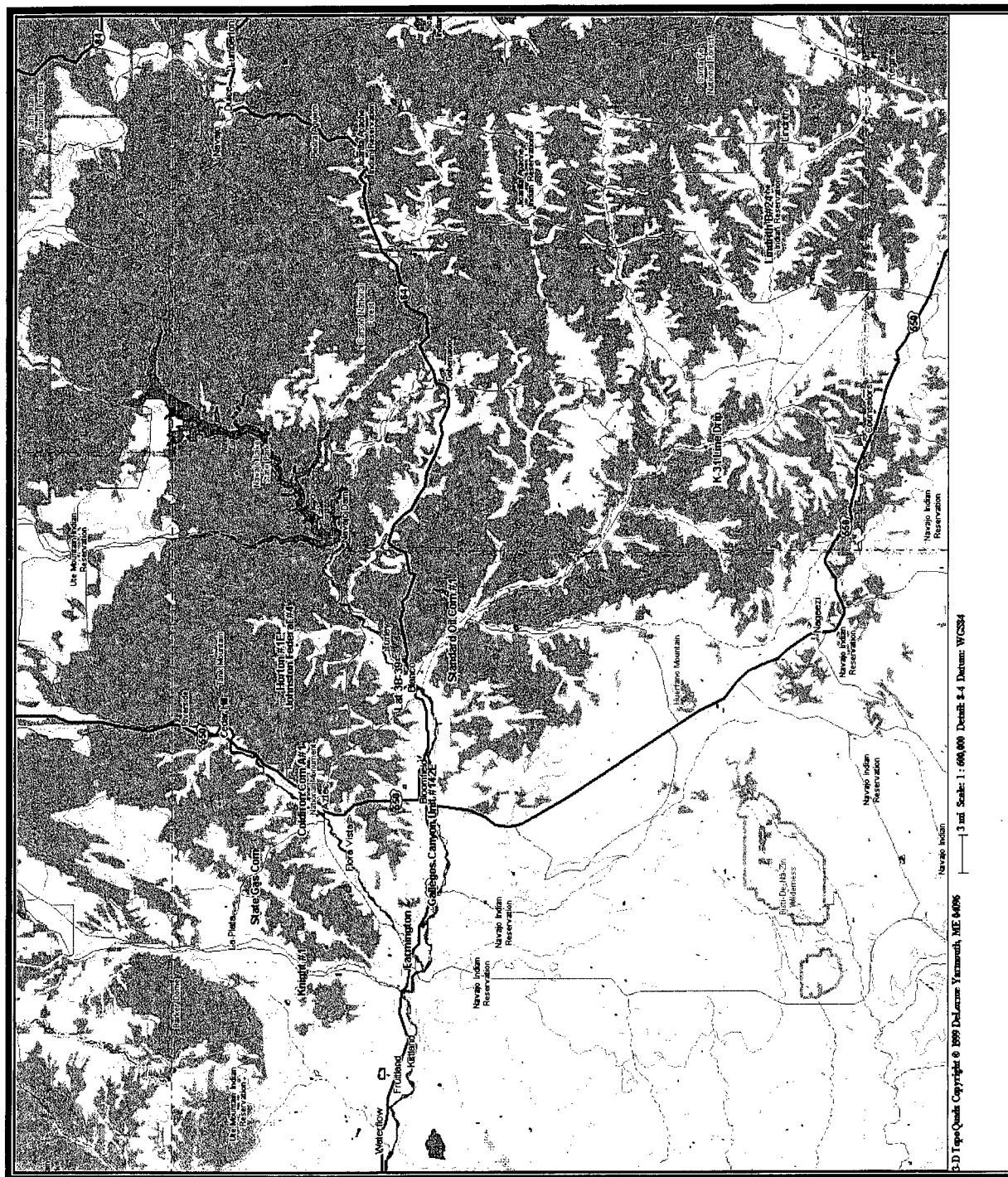
**TABLE OF CONTENTS**

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
71669	State Gas Com N #1	31N	12W	16	H
70194	Johnston Fed #4	31N	09W	33	H
93388	Horton #1E	31N	09W	28	H
72556	Knight #1	30N	13W	5	A
73551	Coldiron A #1	30N	11W	2	K
03906	<del>GCUCOM A #142E</del>	29N	12W	25	G
70445	Standard Oil Com #1	29N	09W	36	N
LD087	K-31 Line Drip	25N	06W	16	N
94967	Lindrith B #24	24N	03W	9	N



**MWH**  
MONTGOMERY WATSON HARZA

# Non - Federal Groundwater Site Map



U.S. Geological Survey  
 3-D Topographic Copyright © 1999 Delorme, Yarmouth, ME 04096  
 Scale: 1:600,000 Densit: 4.4 Datum: WGS84

## **LIST OF ACRONYMS**

B	benzene
btoc	below top of casing
E	ethylbenzene
EPFS	El Paso Field Services
ft	foot/feet
GWEL	groundwater elevation
ID	identification
MW	monitoring well
PSH	phase-separated hydrocarbons
NMWQCC	New Mexico Water Quality Control Commission
T	toluene
TOC	top of casing
NA	not applicable
NE	not established
NM	not measured
NMOCD	New Mexico Oil Conservation Division
NS	not sampled
ORC	oxygen-releasing compound
ppb	parts per billion
µg/L	micrograms per liter
X	total xylenes

**EPFS GROUNDWATER SITES  
2003 ANNUAL GROUNDWATER REPORT**

**GCU Com A #142E  
Meter Code: 03906**

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**SITE DETAILS**

<b>Legal Description:</b>	<b>Town:</b> 29N	<b>Range:</b> 12W	<b>Sec:</b> 25	<b>Unit:</b> G
<b>NMOCD Haz Ranking:</b>	10	<b>Land Type:</b> Fee	<b>Operator:</b> Amoco Production Company	

**PREVIOUS ACTIVITIES**

<b>Site Assessment:</b>	4/94	<b>Excavation:</b>	4/94 (20 cy)	<b>Soil Boring:</b>	10/95
<b>Monitor Well:</b>	2/97	<b>Geoprobe:</b>	12/96	<b>Additional MWs:</b>	12/01
<b>Downgradient MWs:</b>	12/01	<b>Replace MW:</b>	NA	<b>Quarterly Initiated:</b>	8/97
<b>ORC Nutrient Injection:</b>	NA	<b>Re-Excavation:</b>	10/96 (882 cy)	<b>PSH Removal Initiated:</b>	NA
<b>Annual Initiated:</b>	5/98	<b>Quarterly Resumed:</b>	NA		

**SUMMARY OF 2003 ACTIVITIES**

**MW-1:** Semi-annual groundwater sampling and water level measurements were performed during 2003.

**MW-2:** Annual groundwater sampling was performed during 2003.

**Site-Wide Activities:** No other activities were performed at this site during 2003.

**SITE MAPS**

Site maps (March and September) are attached in Figures 1 and 2.

**EPFS GROUNDWATER SITES  
2003 ANNUAL GROUNDWATER REPORT**

**GCU Com A #142E  
Meter Code: 03906**

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**SUMMARY TABLES AND GRAPHS**

- Analytical data from 2003 are summarized in Table 1, and historic data are presented graphically in Figures 3 and 4.
- Laboratory reports are presented in Attachment 1.
- Field documentation is presented in Attachment 2.

**GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS**

No subsurface activities were performed at this site during 2003.

**DISPOSITION OF GENERATED WASTES**

No wastes were generated at this site during 2003.

**ISOCONCENTRATION MAPS**

No isoconcentration maps were prepared for this site, however, the attached site maps present the analytical data collected during 2003.

**CONCLUSIONS**

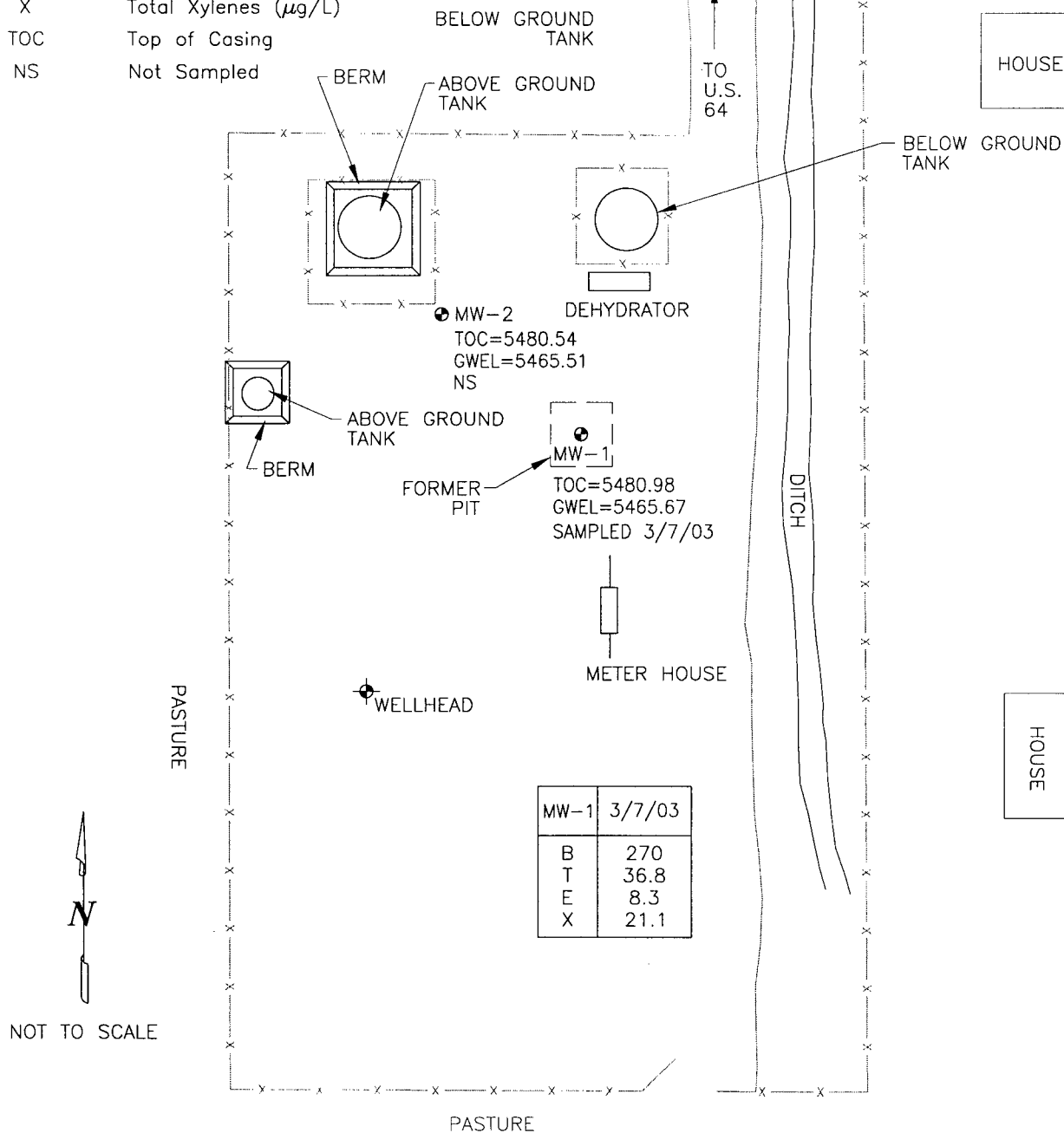
- BTEX concentrations from samples collected at MW-1 were similar to concentrations in 2002, and have generally declined historically. During the September 2003 sampling event, the benzene concentration in MW-1 was 150 µg/L, compared to over 5,000 µg/L during March 1997.
- BTEX concentrations in monitoring well MW-2, located adjacent to production equipment, were slightly below concentrations measured in 2001, but remained above closure standards.

**RECOMMENDATIONS**

- EPFS recommends that MW-1 continue to be sampled annually until concentrations of BTEX constituents approach closure criteria. This well will then be scheduled for quarterly sample collection until closure criteria have been met.
- EPFS recommends that monitoring well MW-2, located adjacent to production equipment, continue to be sampled annually until concentrations of BTEX constituents approach closure criteria. This well will then be scheduled for quarterly sample collection until closure criteria have been met.

# LEGEND

- MW-1 Approximate Monitoring Well Location and Number
- Road
- - - - - Fence Line
- B Benzene ( $\mu\text{g/L}$ )
- T Toluene ( $\mu\text{g/L}$ )
- E Ethylbenzene ( $\mu\text{g/L}$ )
- X Total Xylenes ( $\mu\text{g/L}$ )
- TOC Top of Casing
- NS Not Sampled



GALLEGOS CANYON UNIT A142E, METER 03906  
MARCH 2003

GROUNDWATER SITES  
EL PASO FIELD SERVICES

FIGURE 1



# LEGEND

 MW-1      Approximate Monitoring Well Location and Number

 Road

 Fence Line

B Benzene ( $\mu\text{g/L}$ )

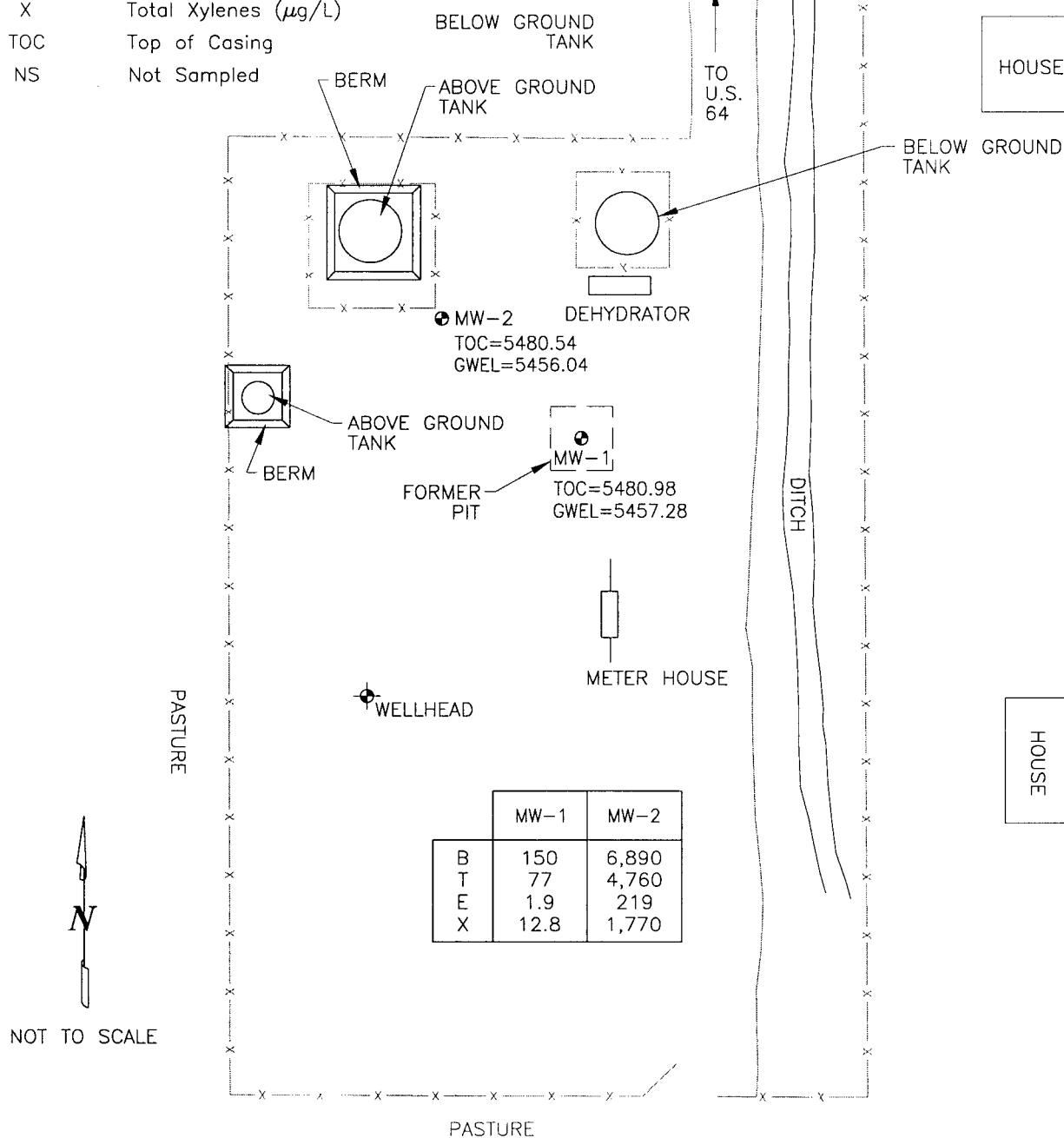
T Toluene ( $\mu\text{g/L}$ )

E Ethylbenzene ( $\mu\text{g/L}$ )

X Total Xylenes ( $\mu\text{g/L}$ )

TOC Top of Casing

NS Not Sampled



GALLEGOS CANYON UNIT A142E, METER 03906  
 SEPTEMBER 2003

GROUNDWATER SITES  
 EL PASO FIELD SERVICES

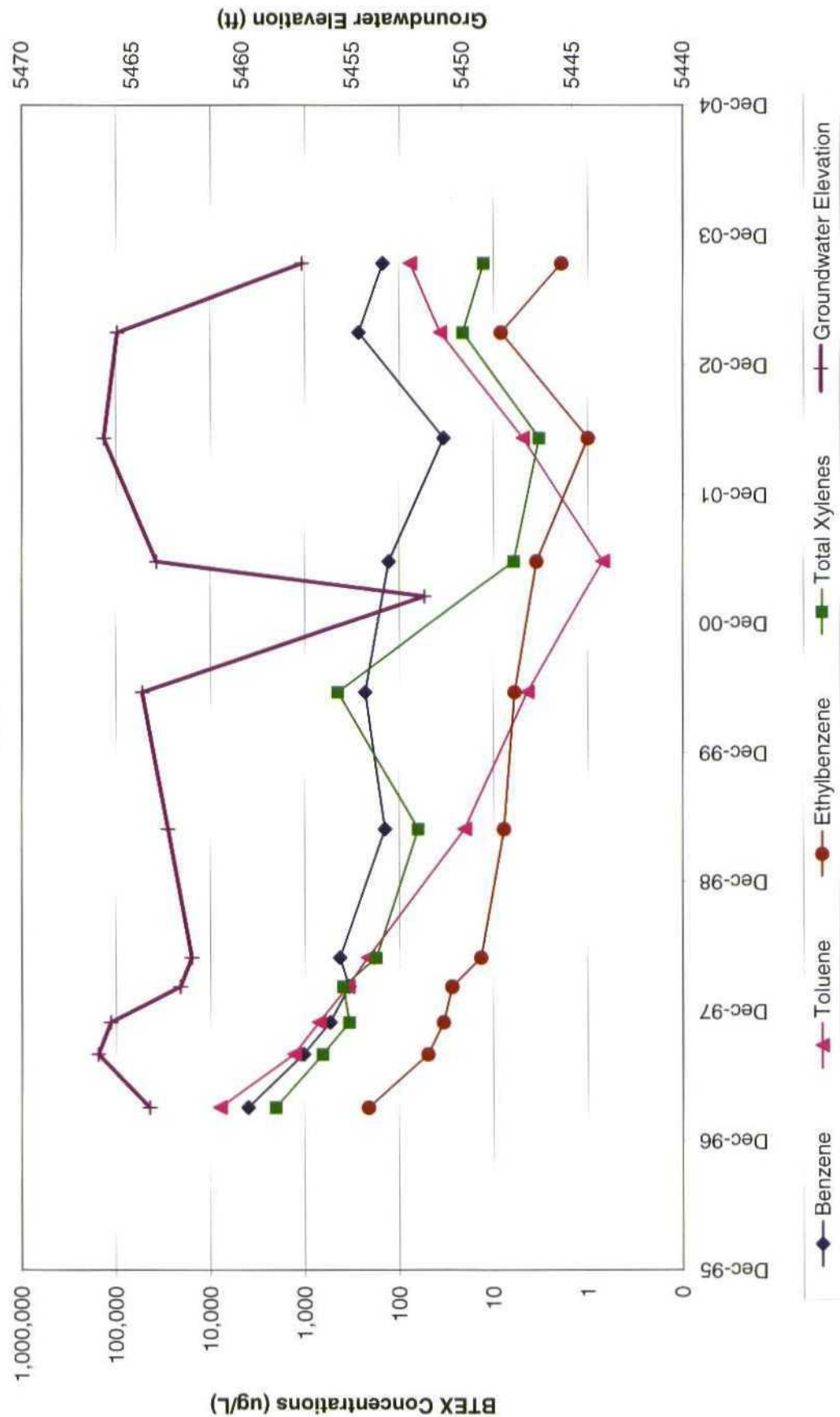
FIGURE 2

TABLE 1

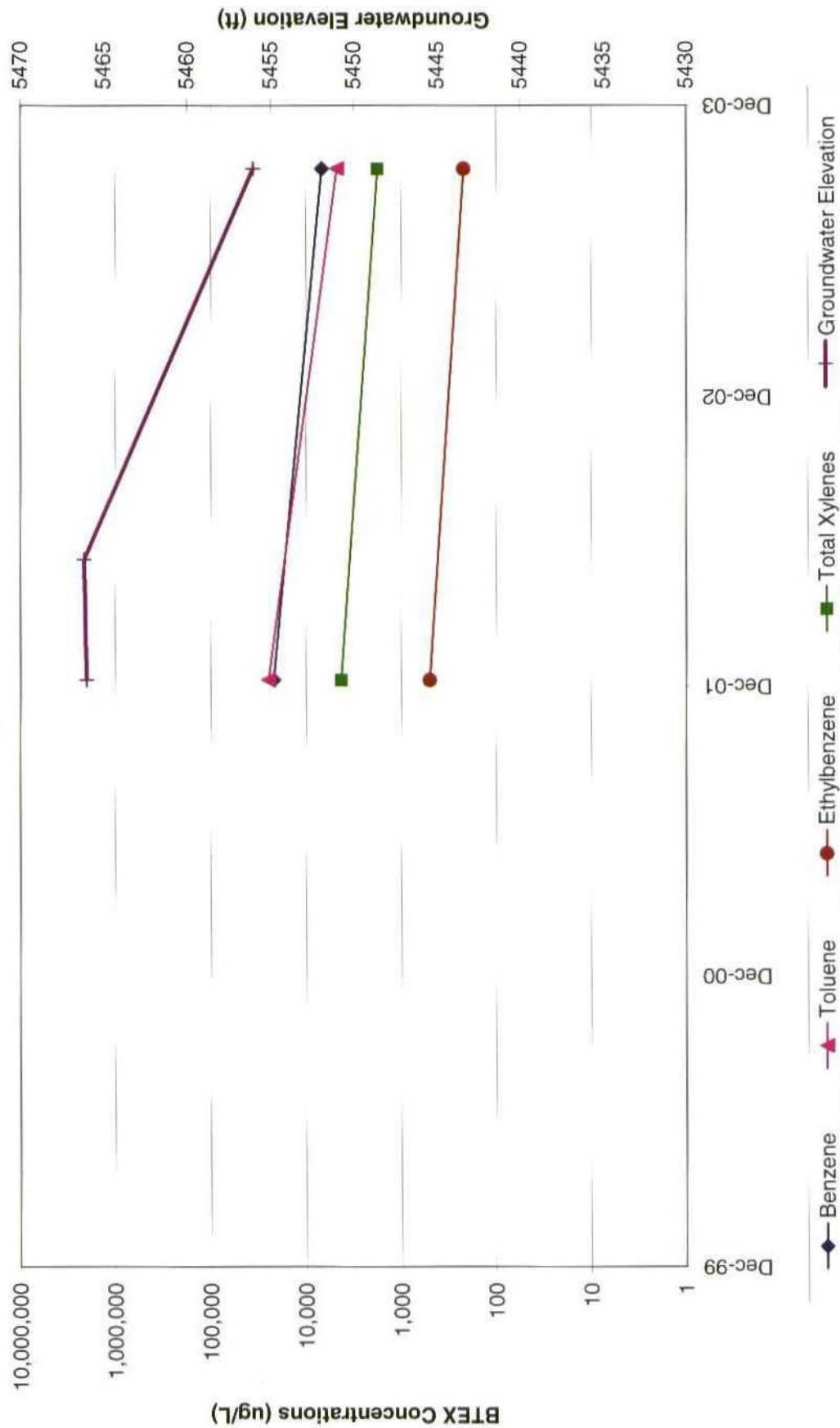
SUMMARY OF BTEX COMPOUNDS IN 2003 GROUNDWATER SAMPLES  
GCU COM A #142E (METER #03906)

Site Name	Monitoring Well	Sample Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Depth to Water (ft btoc)
GCU Com A #142E	MW-1	3/7/2003	270	36.8	8.3	21.1	15.32
GCU Com A #142E	MW-1	9/17/2003	150	77	1.9	12.8	23.70
GCU Com A #142E	MW-2	9/17/2003	6,890	4,760	219	1,770	24.50

FIGURE 3  
HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS  
GCU COM A #142E  
MW-1



**FIGURE 4**  
**HISTORIC BTEX CONCENTRATIONS AND GROUNDWATER ELEVATIONS**  
**GCU COM A #142E**  
**MW-2**



**ATTACHMENT 1**  
**LABORATORY REPORTS**

(Page 1 of 2)

Validation Complete: 1 sign / letters 9-30-03  
(Date/Signature)

[illegible]

**DATA VALIDATION WORKSHEET**  
(Page 2 of 2)

**Analytical Method:** SW-846 8021B (BTEX) **MWH Job Number:** EPC-SJRB (Groundwater)

**Laboratory:** Accutest **Batch Identification:** T5403

Validation Criteria								
Sample ID	GCUA 142E MW-2	GCUA 142E MW-1	170903TB 02					
Lab ID	T5403-01	T5403-02	T5403-03					
Holding Time	A <sup>1</sup>	A	A					
Analyte List	A	A	A					
Reporting Limits	A	A	A					
Trip Blank	A	A	A					
Equipment Rinseate Blanks	N/A	N/A	N/A					
Field Duplicate/Replicate	N/A	N/A	N/A					
Surrogate Spike Recovery	A	A	A					
Initial Calibration	N	N	N					
Initial Calibration Verification (ICV)	N	N	N					
Continuing Calibration Verification (CCV)	N	N	N					
Laboratory Control Sample (LCS)	A	A	A					
Laboratory Control Sample Duplicate (LCSD)	N	N	N					
Method Blank	A	A	A					
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	A	N/A					
Retention Time Window	N	N	N					
Injection Time(s)	N	N	N					
Hardcopy vs. Chain-of-Custody	A	A	A					
EDD vs. Hardcopy	N	N	N					
EDD vs. Chain of Custody	N	N	N					

(a) List QC batch identification if different than Batch ID

A indicates validation criteria were met

A/L indicates validation criteria met based upon Laboratory's QC Summary Form

X indicates validation criteria were not met

N indicates data review were not a project specific requirement

N/A indicates criteria are not applicable for the specified analytical method or sample

N/R indicates data not available for review

**NOTES:**

- 1) Non-preserved sample holding time of seven days exceeded by five days, indicating a possible low bias. Qualify associated sample hits with "J" flags to indicated the data are estimated and potentially biased low and qualify associated non-detects with "UJ" flags to indicate the results are possible false negatives.


**ACCUTEST®**

Laboratories



CHAIN OF CUSTODY 170903 MNP2

10165 Harwin Drive, Ste. 150, Houston, TX 77036

**TEL. 713-271-4700 FAX: 713-271-4770**

**www.accutest.com**

Bottle Order Control #

FED-EX Tracking # 842252414844

Accutest Quote #

Company Name				Client / Reporting Information				Project Information				Requested Analysis				Matrix Codes			
MWH/ELPSO				Project Name: Groundwater												DW - Drinking Water			
Address: 614 Reilly				State: CA												GW - Ground Water			
City: Fontana				Project # 87401												WW - Water			
Project Contact: Scott Pope				E-mail:												SW - Surface Water			
Phone # 505 599 2124				Fax # 505 599 2119												SO - Soil			
Sampler's Name: M J Nee				Client Purchase Order #												SL - Sludge			
																OI - Oil			
																LIQ - Other Liquid			
																AIR - Air			
																SOL - Other Solid			
																WP - Wipe			
																LAB USE ONLY			

Accutest Sample #		Field ID / Point of Collection		SUMMA #		Collection		Matrix		# of bottles		Number of preserved Bottles										Remarks							
				MECH Val #		Date Time		Sampled By		Matrix		I		HNO3		H2SO4		NONE		MARSOL		MEOH		ENCORE					
		GCUA 142E MW-2				9-17-03 1255 PM		MW		WB		2		2														BTEX	
		GCUA 142E MW-1				9-17-03 1340 PM		MW		WB		2		2														2	
		170903TBQ2				9-17-03 0230 PM		MW		WB		1		1														1	

Turnaround Time (Business Days)		Approved By / Date:		Data Deliverable Information		Comments / Remarks	
<input checked="" type="checkbox"/> 10 Day STANDARD				<input type="checkbox"/> EDD Format		T 5403	
<input type="checkbox"/> 5 Day RUSH							
<input type="checkbox"/> 3 Day EMERGENCY							
<input type="checkbox"/> 2 Day EMERGENCY							
<input type="checkbox"/> 1 Day EMERGENCY							
<input type="checkbox"/> Other							

Emergency & Rush T/A data available VIA LabLink

Relinquished by:		Date Time:		Relinquished by:		Date Time:	
1. [Signature]		9-17-03		2. [Signature]		9-18-03	
3. [Signature]		9-18-03		4. [Signature]		9-18-03	
Relinquished by:		Date Time:		Relinquished by:		Date Time:	

Sample Custody must be documented below each line samples change possession, including courier delivery

Relinquished by:		Date Time:		Relinquished by:		Date Time:	
1. [Signature]		9-17-03		2. [Signature]		9-18-03	
3. [Signature]		9-18-03		4. [Signature]		9-18-03	
Relinquished by:		Date Time:		Relinquished by:		Date Time:	

Commercial 'A' = Results Only

Commercial 'A': ☐ Commercial 'B': ☐  
☐ Reduced Tier 1  
☐ Full Tier 1  
☐ TRRP13

Emergency & Rush T/A data available VIA LabLink





Gulf Coast  
**ACCUTEST.**  
Laboratories

09/30/03

## Technical Report for

Montgomery Watson

EPFS San Juan Basin Groundwater Site

Accutest Job Number: T5403

GCU 14ZE

Report to:

MWH

pamela.j.anderson@us.mwhglobal.com

ATTN: Pam Anderson

Total number of pages in report: 15



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Ron Martino  
Laboratory Manager

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

## Sample Summary

Montgomery Watson

Job No: T5403

EPFS San Juan Basin Groundwater Site

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
T5403-1	09/17/03	12:55 MJN	09/18/03	AQ Water	GCUA 142B MW-2
T5403-2	09/17/03	13:40 MJN	09/18/03	AQ Water	GCUA 142B MW-1
T5403-3	09/17/03	07:00 MJN	09/18/03	AQ Trip Blank Water	170903TB02

## Report of Analysis

Page 1 of 1

Client Sample ID: GCUA 142B MW-2  
 Lab Sample ID: T5403-1  
 Matrix: AQ - Water  
 Method: SW846 8021B  
 Project: EPFS San Juan Basin Groundwater Site

Date Sampled: 09/17/03  
 Date Received: 09/18/03  
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 <sup>a</sup>	KK005857.D	10	09/29/03	BC	n/a	n/a	GKK315
Run #2 <sup>a</sup>	KK005858.D	50	09/29/03	BC	n/a	n/a	GKK315
Run #3	KK005866.D	100	09/30/03	BC	n/a	n/a	GKK316

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml
Run #3	5.0 ml

## Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	6890 <sup>b</sup>	100	ug/l	
108-88-3	Toluene	4760 <sup>c</sup>	50	ug/l	
100-41-4	Ethylbenzene	219	10	ug/l	
1330-20-7	Xylenes (total)	1770	30	ug/l	
95-47-6	o-Xylene	324	10	ug/l	
	m,p-Xylene	1450	20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
460-00-4	4-Bromofluorobenzene	88%	89%	85%	64-121%
98-08-8	aaa-Trifluorotoluene	110%	93%	88%	71-121%

(a) Sample was not preserved to a pH < 2; reported results are considered minimum values.

(b) Result is from Run# 3

(c) Result is from Run# 2

ND = Not detected  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

Client Sample ID:	GCUA 142B MW-1	Date Sampled:	09/17/03
Lab Sample ID:	T5403-2	Date Received:	09/18/03
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	EPFS San Juan Basin Groundwater Site		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK005859.D	1	09/29/03	BC	n/a	n/a	GKK315
Run #2	KK005867.D	10	09/30/03	BC	n/a	n/a	GKK316

Run #	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

## Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	150 <sup>a</sup>	10	ug/l	
108-88-3	Toluene	77.0	1.0	ug/l	
100-41-4	Ethylbenzene	1.9	1.0	ug/l	
1330-20-7	Xylenes (total)	12.8	3.0	ug/l	
95-47-6	o-Xylene	2.9	1.0	ug/l	
	m,p-Xylene	9.9	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%	90%	64-121%
98-08-8	aaa-Trifluorotoluene	95%	92%	71-121%

(a) Result is from Run# 2

ND = Not detected  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

Client Sample ID:	170903TB02	Date Sampled:	09/17/03
Lab Sample ID:	T5403-3	Date Received:	09/18/03
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8021B		
Project:	EPFS San Juan Basin Groundwater Site		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK005810.D	1	09/22/03	BC	n/a	n/a	GKK312
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	105%		64-121%
98-08-8	aaa-Trifluorotoluene	99%		71-121%

ND = Not detected  
RL = Reporting Limit  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## GC Volatiles

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### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

## Blank Spike Summary

Page 1 of 1

Job Number: T5403  
Account: MWHSLCUT Montgomery Watson  
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK312-BS	KK005791.D1		09/22/03	BC	n/a	n/a	GKK312

The QC reported here applies to the following samples:

Method: SW846 8021B

T5403-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	22.9	115	74-119
100-41-4	Ethylbenzene	20	22.9	115	82-115
108-88-3	Toluene	20	22.4	112	77-116
1330-20-7	Xylenes (total)	60	67.7	113	79-115
95-47-6	o-Xylene	20	22.4	112	78-114
	m,p-Xylene	40	45.2	113	79-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	115%	64-121%
98-08-8	aaa-Trifluorotoluene	106%	71-121%

## Blank Spike Summary

Page 1 of 1

Job Number: T5403  
Account: MWHSLCUT Montgomery Watson  
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK315-BS <sup>a</sup>	KK005849.D	1	09/29/03	BC	n/a	n/a	GKK315

The QC reported here applies to the following samples:

Method: SW846 8021B

T5403-1, T5403-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
100-41-4	Ethylbenzene	20	20.3	102	82-115
108-88-3	Toluene	20	19.8	99	77-116
1330-20-7	Xylenes (total)	60	59.7	100	79-115
95-47-6	o-Xylene	20	19.7	99	78-114
	m,p-Xylene	40	40.0	100	79-116

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	104%	64-121%
98-08-8	aaa-Trifluorotoluene	102%	71-121%

(a) Spike recoveries were adjusted for double spike.



# Blank Spike Summary

Page 1 of 1

Job Number: T5403  
Account: MWHSLCUT Montgomery Watson  
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK316-BS	KK005863.D	1	09/30/03	BC	n/a	n/a	GKK316

The QC reported here applies to the following samples:

Method: SW846 8021B

T5403-1, T5403-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.5	98	74-119

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	93%	64-121%
98-08-8	aaa-Trifluorotoluene	96%	71-121%

## Method Blank Summary

Page 1 of 1

Job Number: T5403  
Account: MWHSLCUT Montgomery Watson  
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK312-MB	KK005792.D	1	09/22/03	BC	n/a	n/a	GKK312

The QC reported here applies to the following samples:

Method: SW846 8021B

T5403-3

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	104%	64-121%
98-08-8	aaa-Trifluorotoluene	101%	71-121%

## Method Blank Summary

Page 1 of 1

Job Number: T5403  
Account: MWHSLCUT Montgomery Watson  
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK315-MB	KK005850.D 1		09/29/03	BC	n/a	n/a	GKK315

The QC reported here applies to the following samples:

Method: SW846 8021B

T5403-1, T5403-2

CAS No.	Compound	Result	RL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
	m,p-Xylene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	98% 64-121%
98-08-8	aaa-Trifluorotoluene	98% 71-121%

## Method Blank Summary

Page 1 of 1

Job Number: T5403  
Account: MWHSLCUT Montgomery Watson  
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK316-MB	KK005864.D	1	09/30/03	BC	n/a	n/a	GKK316

The QC reported here applies to the following samples:

Method: SW846 8021B

T5403-1, T5403-2

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	4-Bromofluorobenzene	89%	64-121%
98-08-8	aaa-Trifluorotoluene	94%	71-121%

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T5403  
Account: MWHSLCUT Montgomery Watson  
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T5378-1MS	KK005800.D	10	09/22/03	BC	n/a	n/a	GKK312
T5378-1MSD	KK005801.D	10	09/22/03	BC	n/a	n/a	GKK312
T5378-1	KK005797.D	1	09/22/03	BC	n/a	n/a	GKK312
T5378-1	KK005799.D	10	09/22/03	BC	n/a	n/a	GKK312

The QC reported here applies to the following samples:

Method: SW846 8021B

T5403-3

CAS No.	Compound	T5378-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	125 <sup>a</sup>		200	345	110	346	111	0	64-124/16
100-41-4	Ethylbenzene	5.2		200	229	112	230	112	0	64-123/14
108-88-3	Toluene	2.6		200	228	113	227	112	0	64-120/13
1330-20-7	Xylenes (total)	3.0		600	700	116	697	116	0	66-118/18
95-47-6	o-Xylene	1.4		200	235	117	235	117	0	65-119/20
	m,p-Xylene	1.6	J	400	465	116	461	115	1	66-120/14

CAS No.	Surrogate Recoveries	MS	MSD	T5378-1	T5378-1	Limits
460-00-4	4-Bromofluorobenzene	111%	103%	103%	95%	64-121%
98-08-8	aaa-Trifluorotoluene	99%	90%	96%	89%	71-121%

(a) Result is from Run #2.

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T5403  
Account: MWHSLCUT Montgomery Watson  
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T5401-1MS	KK005853.D 5		09/29/03	BC	n/a	n/a	GKK315
T5401-1MSD	KK005854.D 5		09/29/03	BC	n/a	n/a	GKK315
T5401-1	KK005852.D 5		09/29/03	BC	n/a	n/a	GKK315

The QC reported here applies to the following samples:

Method: SW846 8021B

T5403-1, T5403-2

CAS No.	Compound	T5401-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
100-41-4	Ethylbenzene	ND		100	101	101	103	103	2	64-123/14
108-88-3	Toluene	77.1		100	181	104	184	107	2	64-120/13
1330-20-7	Xylenes (total)	11.7	J	300	297	95	313	100	5	66-118/18
95-47-6	o-Xylene	2.7	J	100	95.4	93	101	98	6	65-119/20
	m,p-Xylene	8.9	J	200	202	97	212	102	5	66-120/14

CAS No.	Surrogate Recoveries	MS	MSD	T5401-1	Limits
460-00-4	4-Bromofluorobenzene	87%	91%	76%	64-121%
98-08-8	aaa-Trifluorotoluene	87%	90%	79%	71-121%

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T5403  
Account: MWHSLCUT Montgomery Watson  
Project: EPFS San Juan Basin Groundwater Site

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T5403-2MS	KK005869.D	10	09/30/03	BC	n/a	n/a	GKK316
T5403-2MSD	KK005870.D	10	09/30/03	BC	n/a	n/a	GKK316
T5403-2	KK005867.D	10	09/30/03	BC	n/a	n/a	GKK316

The QC reported here applies to the following samples:

Method: SW846 8021B

T5403-1, T5403-2

CAS No.	Compound	T5403-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	150		200	343	97	342	96	0	64-124/16

CAS No.	Surrogate Recoveries	MS	MSD	T5403-2	Limits
460-00-4	4-Bromofluorobenzene	92%	90%	90%	64-121%
98-08-8	aaa-Trifluorotoluene	92%	91%	92%	71-121%



**ACCUTEST.**  
Laboratories

**CHAIN CUSTODY** 170903 MW02

10165 Harwin Drive, Ste. 150, Houston, TX 77036  
TEL: 713-271-4700 FAX: 713-271-4770  
www.accutest.com

FED-EX Tracking #  
842252414844  
Bottle Order Control #  
Accutest Job #

Client / Reporting Information				Project Information				Requested Analysis				Matrix Codes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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**ACCUTEST.**

## SAMPLE RECEIPT LOG

DB #:

75403

DATE/TIME RECEIVED:

9/18/03 0900

**CLIENT:**

El Paso MWHT

INITIALS:

10

Condition/Variance (Circle "Y" for yes and "N" for no. If "N" is circled, see variance for explanation):

1. ☒ N Sample received in undamaged condition. 2. ☒ N Samples received within temp. range.  
3. ☒ Y ☒ N Sample received with proper pH. 4. ☒ N Sample received in proper containers.  
5. ☒ N Sample volume sufficient for analysis. 6. ☒ N Sample received with chain of custody.  
7. ☒ N Chain of Custody matches sample IDs on containers.  
8. ☒ N Custody seal received intact and tamper evident on cooler.  
9. ☒ Y ☒ N ☒ Custody seal received intact and tamper evident on bottles.

[illegible]

LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

**Comments:**

**pH of waters checked excluding volatiles**

pH of soils N/A

Delivery method: Courier:\_\_\_\_\_

Tracking#: \_\_\_\_\_

COOLER TEMP:

2.6°C

COOLER TEMP:

COOLER TEMP:

COOLER TEMP:

**Method of sample disposal: (circle one) Accutest disposal    Hold    Return to Client**

Form: SM012

(Page 1 of 2)

Analytical Method/Analytes: SW-846 8021B (BTEX) Sample Collection Date(s): 03/07/03

Laboratory: APCL

**MWH Job Number:** EPC-SJRB  
(Groundwater)

**Batch Identification:** 03-02085

**Matrix:** Water

**MS/MSD Parent(s)<sup>(a)</sup>:** None

Field Replicate Parent(s): None

Validation Complete: Linn Luttas 3-31-03  
(Date/Signature)

**(Date/Signature)**

[illegible]

# DATA VALIDATION WORKSHEET

(Page 2 of 2)

Analytical Method: SW-846 8021B (BTEX) MWH Job Number: EPC-SJRB (Jaquez)

Laboratory: APCL Batch Identification: 03-02085

Validation Criteria								
Sample ID	GCU A 142E MW-1	Ohio C Govt 3 MW-2	Ohio C Govt 3 MW-3	Ohio C Govt 3 MW-4	TB 260203-1			
Lab ID	03-02085-01	03-02085-02	03-02085-03	03-02085-04	03-02085-05			
Holding Time	A	A	A	A	A			
Analyte List	A	A	A	A	A			
Reporting Limits	A	A	A	A	A			
Trip Blank	A <sup>1</sup>	A <sup>1</sup>	A <sup>1</sup>	A <sup>1</sup>	A <sup>1</sup>			
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A	N/A			
Field Duplicate/Replicate	N/A	N/A	N/A	N/A	N/A			
Initial Calibration	N	N	N	N	N			
Initial Calibration Verification (ICV)	N	N	N	N	N			
Continuing Calibration Verification (CCV)	A	A	A	A	A			
Method Blank	A	A	A	A	A			
Laboratory Control Sample (LCS)	A	A	A	A	A			
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N	N			
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A	N/A			
Surrogate Spike Recovery	A	A	A	A	A			
Retention Time Window	N	N	N	N	N			
Injection Time(s)	N	N	N	N	N			
Hardcopy vs. Chain-of-Custody	A	A	A	A	A			
EDD vs. Hardcopy	N	N	N	N	N			
EDD vs. Chain of Custody	N	N	N	N	N			

(a) List QC batch identification if different than Batch ID

A indicates validation criteria were met

A/L indicates validation criteria met based upon Laboratory's QC Summary Form

X indicates validation criteria were not met

N indicates data review were not a project specific requirement

N/A indicates criteria are not applicable for the specified analytical method or sample

N/R indicates data not available for review

## NOTES:

1) The following compounds were detected in the trip blank (TB 270203-1):

- a) Toluene @ 0.3 T µg/l, qualify associated sample concentrations greater than 1.5 µg/l with "B" flags and associated sample concentrations less than 1.5 µg/l with "UB" flags.

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

Submitted to:

Montgomery Watson Harza

Attention: Brian Buttars

10619 South Jordan Gateway

Salt Lake City UT 84095

Tel: (801)617-3200 Fax: (801)617-4200

# APCL Analytical Report

Service ID #: 801-032085

Collected by: M.J Nee

Collected on: 03/07/03

Received: 03/10/03

Extracted: N/A

Tested: 03/11/03

Reported: 03/14/03

Sample Description: Water

Project Description: 220013 San Juan River Basin

## Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result	
				MW-1	MW-2
				03-02085-1	03-02085-2
BTXE					
Dilution Factor				1	1
BENZENE	8021B	µg/L	0.5	270	0.6
ETHYLBENZENE	8021B	µg/L	0.5	8.3	1.2
TOLUENE	8021B	µg/L	0.5	36.8	0.6
O-XYLENE	8021B	µg/L	0.5	5.1	0.6
M,P-XYLENE	8021B	µg/L	1	16	2.3

Component Analyzed	Method	Unit	PQL	Analysis Result		
				MW-3 03-02085-3	MW-4 03-02085-4	TB 03-02085-5
BTXE						
Dilution Factor				1	1	1
BENZENE	8021B	µg/L	0.5	0.11	2.1	<0.5
ETHYLBENZENE	8021B	µg/L	0.5	1.4	9.3	<0.5
TOLUENE	8021B	µg/L	0.5	0.9	0.41	0.31
O-XYLENE	8021B	µg/L	0.5	0.7	1.8	<0.5
M,P-XYLENE	8021B	µg/L	1	3.1	6.3	<1

PQL: Practical Quantitation Limit. MDL: Method Detection Limit.

CRDL: Contract Required Detection Limit

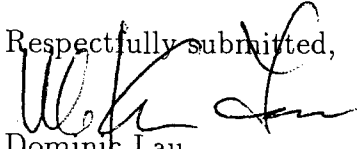
N.D.: Not Detected or less than the practical quantitation limit.

"-": Analysis is not required.

J: Reported between PQL and MDL.

Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

  
Dominik Lau  
Laboratory Director  
Applied P & Ch Laboratory

Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

# APCL QA/QC Report

Submitted to:

Montgomery Watson Harza

Attention: Brian Buttars

10619 South Jordan Gateway

Salt Lake City, UT 84095

Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-032085

Collected by: M.J Nee

Collected on: 03/07/03

Sample description:

Water

Project: San Juan River Basin /220013

Received: 03/10/03

Tested: 03/11/03

Reported: 03/26/03

## Analysis of Water

801-032085QC

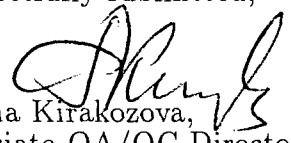
Component Name	Analysis Batch #	CCV ( $\mu\text{g/L}$ )	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	%Diff
<b>BTXE</b>												
Benzene	03G1682	100	105	N.D.	$\mu\text{g/L}$	18.0	103	96	96	0	71-126	28
Toluene	03G1682	100	110	N.D.	$\mu\text{g/L}$	70.0	104	96	96	0	70-117	24
Ethylbenzene	03G1682	100	114	N.D.	$\mu\text{g/L}$	18.0	107	96	96	1	65-131	33
m/p-Xylene	03G1682	200	107	N.D.	$\mu\text{g/L}$	70.0	102	94	94	0	66-122	28
o-Xylene	03G1682	100	105	N.D.	$\mu\text{g/L}$	25.0	97	95	94	0	65-130	33

**Notation:**

ICV - Initial Calibration Verification  
CCV - Continuation Calibration Verification  
LCS - Lab Control Spike  
MS - Matrix Spike  
MSD - Matrix Spike Duplicate  
ICS - Interference Check Standard  
MD - Matrix Duplicate  
N.D. - Not detected or less than PQL

CCB - Continuation Calibration Blank  
M-blank - Method Blank  
SP Level - Spike Level  
%Rec - Recovery Percent  
%RPD - Relative Percent Differences  
%Diff - Control Limit for %RPD  
ICP-SD - ICP Serial Dilution  
N.A. - Not Applicable

Respectfully submitted,

  
Regina Kirakozova,  
Associate QA/QC Director  
Applied P & Ch Laboratory

## FORM-2A

Applied P &amp; Ch Laboratory

## Surrogate Recovery Summary for Method 8021B

Client Name: Montgomery Watson Harza

Contract No:

Lab Code: APCL

Case No:

SAS No:

SDG Number: 032085

Project ID: San Juan River Basin

Project No: 220013

Sample Matrix: Water

Batch No: 03G1682

#	Client Sample No	Lab Sample ID	S1 % #	TOT OUT
1		03G1682-LCS-01	94	0
2		03G1682-LSD-01	90	0
3		03G1682-MB-01	96	0
4	TB	03-2085-5	97	0
5	MW-1	03-2085-1	94	0
6	MW-2	03-2085-2	99	0
7	MW-3	03-2085-3	100	0
8	MW-4	03-2085-4	100	0
9	842092-0052	03-2086-1MS	90	0
10	842092-0052	03-2086-1MSD	90	0
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

S1 = 4-BROMO-FLUOROBENZENE (PID)

QC Control Limit  
66-133

# Column to be used to flag recovery values:

\* - Values outside of contract required QC Limits

D - Surrogate diluted out

I - Matrix Interference

# CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY APCL

Contract El Paso Corp., San Juan River Basin

MWH

Phone (801) 617-3200 FAX (801) 617-4200

MWH Contact Brian Butters

Project San Juan Basin

Project Number 22003

Date Due Standard

Sampler's Name MT Neo  
(print clearly)

Chain of Custody ID 070303 MN-1

Page 1 of 1

Air Bill No. 836381674323

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix (a)	Sampling Technique (b)	ANALYSES REQUESTED							
							BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0
19W Ohio C Gout 3	MW3		3-7-03	0831	WB	B	X							
19W Ohio C Gout 3	MW2		3-7-03	0949	WB	B	X							
19W Ohio C Gout 3	MW4		3-7-03	1036	WB	B	X							
6W GCUA 142E	MW1		3-7-03	1141	WB	B	X							
TB070303-1	TB		3-7-03	0700	WB		X							

2085

(a) Matrix:  
SO - Soil  
WS - Surface Water  
WG - Ground Water

(b) Sampling Technique:  
Composite=C  
Grab=G  
Hand Auger=HA

Submersible Pump=SP  
Bladder Pump=BP  
Bailer=B  
Wellhead Faucet=WF  
Hydropunch=HP

Location IDs:  
Groundwater Sites=GW  
Bisil=BI  
Jaquez=JA

North Flare Pit=NF  
South Flare Pit=SF  
San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
<u>MT Neo</u>	<u>Park</u>	3-7-03	1500
		3/10/03	1500

LABORATORY USE ONLY	
<b>SAMPLES WERE:</b>	
1 Shipped or hand delivered Notes:	
2 Ambient or Chilled Notes:	
3 Temperature _____	
4 Received Broken/Leaking (Improperly Sealed) Y N Notes:	
5 Properly Preserved Y N Notes:	
6 Received Within Holding Times Y N Notes:	
<b>COC Tape Was:</b>	
1 Present on Outer Packaging Y N NA	
2 Unbroken on Outer Package Y N NA	
3 Present on Sample Y N NA	
4 Unbroken on Sample Y N NA Notes:	
Discrepancies Between Sample Labels and COC Record? Y N Notes:	

## Sample Receiving Checklist

APCL Service ID

**2085**Client Name/Project: Montgomery Watson Hazard

## 1. Sample Arrival

Date/Time Received 3/10/03 10:00 Date/Time Opened 3/10/03 10:00 By (name): Paul KeryCustody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☒ FedEx ☐ APCL Empl: \_\_\_\_\_

## 2. Chain-of-Custody (CoC)

☒ With Samples? ☐ Faxed? ☒ Client has Copy? ☐ Signed, dated? By: \_\_\_\_\_  
☒ Project ID? ☐ Analyses Clear? ☐ Hold Samples? # on Hold \_\_\_\_\_ # Received \_\_\_\_\_  
☒ CoC/Docs Zip-Locked under lid? ☐ Compos. #: \_\_\_\_\_ ☒ #Samples OK? \_\_\_\_\_  
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): \_\_\_\_\_

## 3. Shipping Container/Cooler

☒ Cooler Used? # of 1 Cooled by: ☒ Ice ☐ Blue Ice ☐ Dry Ice ☐ None  
 Temp °C 4.3°C

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☒ Intact ☐ Tampered?

## 4. Sample Preservation

☐ pH <2 ☐ pH >12  
 If Not, pH = \_\_\_\_\_ Preserved by: ☐ Client ☐ APCL ☐ Third Party \_\_\_\_\_

## 5. Holding-time Requirements

☐ pH 24hr ☐ BACT 6/24hr ☐ Cr<sup>VI</sup> 24hr ☐ NO<sub>3</sub><sup>-</sup> 48hr ☐ BOD 48hr  
☐ Cl<sub>2</sub> ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP  
☐ HT Expired? ☐ Client notified?

## 6. Sample Container Condition

☒ Intact? ☐ Broken? ☐ Documented? Number: \_\_\_\_\_  
 Type: ☐ plastic ☒ glass ☐ Tube: brass/SS ☐ Tedlar Bag  
☒ Quantity OK? ☐ Leaking? ☐ Anomaly?  
☒ Caps tight? ☐ Air Bubbles? ☐ Anomaly?  
 Labels: ☒ Unique ID? ☐ Date/Time ☐ Preserved?

## 7. Turn Around Time

☒ RUSH TAT: 5 days ☐ Std (7-10 days) ☐ Not Marked

## 8. Sample Matrix

☐ Drinking H<sub>2</sub>O ☒ Other Liq ☐ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: \_\_\_\_\_  
☐ Ground H<sub>2</sub>O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

## 9. Pre-Login Check List Completed &amp; OK?

☒ ALL OK? (if not, attach docs) ☐ Client Contact? (Name: \_\_\_\_\_) Date/Time: \_\_\_\_\_

Received/Checked by: Paul Kery Date: 10 Mar 2003 Time: 7:45 a.m.

\*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.



Applied P & Ch Laboratory

13760 Magnolia Ave. Chino CA 91710

Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

03-02085 (0984\_1034) (2721900\_1034)

03/10/03

Part 1: General Information

<input type="checkbox"/> Company Information	Name:	Montgomery Watson Harza
	Address:	10619 South Jordan Gateway ,Salt Lake City ,UT 84095
<input type="checkbox"/> Project Information	Project Description:	San Juan River Basin
		Hill AFB
	Project #:	220013
<input type="checkbox"/> Billing Information	P.O. #:	
	Bill Address:	10619 South Jordan Gateway ,Salt Lake City ,UT 84095
	Lab Project ID:	1999-0746
	Client Database #:	04
<input type="checkbox"/> Receiving Information	Who Received Sample?	Paul Kou
	Receiving Date/Time:	03/10/03 1000
	CDC No.	
<input type="checkbox"/> Shipping Information	Shipping Company	Express
	Packing Information:	Cooler/Ice Chester
	Cooler Temperature:	4.3 °C
<input type="checkbox"/> Container Information	Container Provider:	Client
<input type="checkbox"/> Sampling Information	Sampling Person:	
	Sampling Company:	Client
<input type="checkbox"/> Turn-Around-Time Option:		Rush 5 working day(s)
<input type="checkbox"/> QC Option:		QC and Surro. Rep.
<input type="checkbox"/> Disposal Option:		Not specify

## Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont- tainer	Preser- vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days
1	MW-3 ✓	VOA	03-02085-3	W	V	C	40	2	G	030703	N	0	6 <input type="checkbox"/>
2	MW-2 ✓	VOA	03-02085-2	W	V	C	40	2	G	030703	N	0	6 <input type="checkbox"/>
3	MW-4 ✓	VOA	03-02085-4	W	V	C	40	2	G	030703	N	0	6 <input type="checkbox"/>
4	MW-1 ✓	VOA	03-02085-1	W	V	C	40	2	G	030703	N	0	6 <input type="checkbox"/>
5	TB ✓	VOA	03-02085-5	W	V	C	40	1	G	030703	N	0	6 <input type="checkbox"/>

## Part 3: Analysis Information

Test Items:

☒ 8021B

BTXE

Seq. #	Client's Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	BTXE	
1	MW-3	VOA	03-02085-3	W	X	<input type="checkbox"/>
2	MW-2	VOA	03-02085-2	W	X	<input type="checkbox"/>
3	MW-4	VOA	03-02085-4	W	X	<input type="checkbox"/>
4	MW-1	VOA	03-02085-1	W	X	<input type="checkbox"/>
5	TB	VOA	03-02085-5	W	X	<input type="checkbox"/>

Login By En-Yu Paul Kou

Check By JK

LABORATORY APCL  
Contract El Paso Corp., San Juan River Basin

LABORATORY APC

**Contract** El Paso Corp., San Jaun River Basin

MWH

Phone (801) 617-3200 FAX (801) 617-4200

**MWH Contact** Brian Butters

Project Sentuan BasinProject Number 220023

**Date Due** September 9



**Sampler's Name** MT Neo  
(print clearly)

Chain of Custody ID 070303 MN  
Page 1 of 1  
Air Bill No. 836381674323

# CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

[illegible]

LABORATORY USE ONLY	
SAMPLES WERE:	
1 Shipped or hand delivered	
Notes:	
2 Ambient or Chilled	
Notes:	
3 Temperature _____	
4 Received Broken/Leaking (Improperly Sealed)	
Y N	
Notes:	
5 Properly Preserved	
Y N	
Notes:	
6 Received Within Holding Times	
Y N	
Notes:	
COC Tape Was:	
1 Present on Outer Package	
Y N NA	
2 Unbroken on Outer Package	
Y N NA	
3 Present on Sample	
Y N NA	
4 Unbroken on Sample	
Y N NA	
Notes:	
Discrepancies Between Sample Labels and COC Record?	
Y N	
Notes:	

a) Matrix:		b) Sampling Technique:		Location IDs:		North Flare Pit=NF South Flare Pit=SF San Juan River Plant=SJ	
AA – Air	WQ – Trip Blank/ Equipment Blanks	Composite=C	Grab=G	Submersible Pump=SP	Bladder Pump=BP	Bailer=B	Wellhead Faucet=WF
WS – Surface Water	WW – Wastewater	Hand Auger=HA					Hydropunch=HP
WG – Ground Water							
Relinquished by/Affiliation		Received by/Affiliation		Date	Time		
				5.7.03	1500		
				31/10/03	1200		

**ATTACHMENT 2**  
**FIELD DOCUMENTATION**

# WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: SJB Groundwater Client: MWH/EL Paso  
 Location: Gallegos Canyon Unit A 142 E Well No: MW-X 2 Development Sampling  
 Project Manager MJN Date 9/17/03 Start Time 1234 Weather Sunny 80s  
 Depth to Water 24.50 Depth to Product na Product Thickness na Measuring Point TOC  
 Water Column Height 12.22 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐  
 Bottom Valve Bailer ☒ Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal ☒ stabilization of Indicator Parameters ☒ Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/oz to be removed
	Gallons	Ounces	
12.22 x 0.16	1.95 x 3		5.86

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
<b>1239</b>	<b>6.55</b>	<b>1030</b>	<b>22.8</b>				<b>1</b>	<b>silty gray</b>
	<b>6.62</b>	<b>990</b>	<b>21.3</b>				<b>2</b>	<b>sewer odor</b>
	<b>6.69</b>	<b>865</b>	<b>21.0</b>				<b>2.25</b>	
	<b>6.81</b>	<b>842</b>	<b>19.4</b>				<b>2.44</b>	
	<b>6.83</b>	<b>835</b>	<b>19.3</b>				<b>2.69</b>	
	<b>6.70</b>	<b>827</b>	<b>19.3</b>				<b>2.94</b>	
	<b>6.78</b>	<b>838</b>	<b>19.3</b>				<b>4</b>	<b>silty</b>
	<b>6.84</b>	<b>844</b>	<b>19.3</b>				<b>5</b>	
<b>1253</b>	<b>6.82</b>	<b>855</b>	<b>19.3</b>				<b>6</b>	<b>still silty</b>

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
<b>1253</b>	<b>6.82</b>	<b>855</b>	<b>19.3</b>					<b>6</b>	<b>still silty</b>

COMMENTS:

INSTRUMENTATION: pH Meter ☒ Temperature Meter ☒  
 DO Monitor \_\_\_\_\_ Other \_\_\_\_\_  
 Conductivity Meter ☒ \_\_\_\_\_  
 Water Disposal Kutz Sample ID GCU A 142 E MW-2 Sample Time 1255  
**BTEX** VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus  
 MS/MSD \_\_\_\_\_ BD \_\_\_\_\_ BD Name/Time \_\_\_\_\_ TB 170903tb02

# WELL DEVELOPMENT AND SAMPLING LOG

Project No.: 30001.0 Project Name: SJB Groundwater Client: MWH/EL Paso  
 Location: Gallegos Canyon Unit A 142 E Well No: MW-1 Development Sampling  
 Project Manager MJN Date 9/17/03 Start Time 1300 Weather Sunny 80s  
 Depth to Water 23.70 Depth to Product na Product Thickness na Measuring Point TOC  
 Water Column Height 11.08 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐  
 Bottom Valve Bailer ☒ Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal ☒ stabilization of Indicator Parameters ☒ Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/oz to be removed
	Gallons	Ounces	
11.08 x 0.65	7.20 x 3		21.61

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gallons)	Comments/ Flow rate
<b>1302</b>	<b>6.63</b>	<b>1002</b>	<b>21.0</b>				<b>1</b>	<b>clear</b>
<b>1304</b>	<b>6.86</b>	<b>1005</b>	<b>20.3</b>				<b>2</b>	
	<b>7.14</b>	<b>1001</b>	<b>19.9</b>				<b>3</b>	
	<b>6.92</b>	<b>985</b>	<b>19.6</b>				<b>5</b>	
	<b>7.05</b>	<b>965</b>	<b>18.4</b>				<b>10</b>	<b>well is bailing down</b>
	<b>7.08</b>	<b>969</b>	<b>18.5</b>				<b>15</b>	
<b>1334</b>	<b>7.02</b>	<b>1002</b>	<b>18.5</b>				<b>20</b>	<b>clear</b>
<b>1336</b>	<b>7.10</b>	<b>991</b>	<b>18.5</b>				<b>22</b>	

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
<b>1336</b>	<b>7.10</b>	<b>991</b>	<b>18.5</b>					<b>22</b>	

COMMENTS:

INSTRUMENTATION: pH Meter ☒ \_\_\_\_\_ Temperature Meter ☒  
 DO Monitor \_\_\_\_\_ Other \_\_\_\_\_  
 Conductivity Meter ☒ \_\_\_\_\_  
 Water Disposal Kutz Sample ID GCU A 142 E MW-1 Sample Time 1340  
BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus  
 MS/MSD \_\_\_\_\_ BD \_\_\_\_\_ BD Name/Time \_\_\_\_\_ TB 170903tb02

# WELL DEVELOPMENT AND SAMPLING LOG

Project No: 220013 Project Name: SAN JUAN BASIN Client: MWH  
 Location: GCUA142E Well No: MW-1 Development ☐ Sampling ☒  
 Project Manager MJN Date 3-7-03 Start Time \_\_\_\_\_ Weather Clear 40s  
 Depth to Water 15.315 Depth to Product NA Product Thickness NA Measuring Point TCX  
 Water Column Height 6.34 Well Dia. 4"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐  
 Bottom Valve Bailer ☒ Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐  
 Criteria: 3 to 5 Casing Volumes of Water Removal ☒ Stabilization of Indicator Parameters ☒ Other on baildry

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
<u>6.34 x .65</u>	<u>4.12 x 3</u>		<u>12.35</u>

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
<u>1152</u>	<u>3.74</u>	<u>1100</u>	<u>15.4</u>				<u>1</u>	<u>Clear</u>
	<u>3.75</u>	<u>1160</u>	<u>14.0</u>				<u>2</u>	
	<u>3.72</u>	<u>1150</u>	<u>13.8</u>				<u>3</u>	<u>Some brown floater</u>
	<u>4.35</u>	<u>1220</u>	<u>14.5</u>				<u>5</u>	<u>1st bailer Not full</u>
	<u>3.34</u>	<u>1350</u>	<u>14.6</u>				<u>6.5</u>	
	<u>3.86</u>	<u>1310</u>	<u>14.7</u>				<u>7.19</u>	<u>Water is brackish brown</u>
<u>1209</u>	<u>3.90</u>	<u>1160</u>	<u>13.8</u>				<u>8.06</u>	
	<u>3.78</u>	<u>1150</u>	<u>14.2</u>				<u>8.88</u>	
	<u>3.7</u>	<u>1180</u>	<u>14.2</u>				<u>9.69</u>	
<u>1221</u>	<u>3.41</u>	<u>1180</u>	<u>14.3</u>				<u>10.56</u>	
	<u>3.42</u>	<u>1170</u>	<u>14.3</u>				<u>11.38</u>	
<u>1226</u>	<u>3.43</u>	<u>1180</u>	<u>14.5</u>				<u>12.00</u>	
<u>1227</u>	<u>3.77</u>	<u>1180</u>	<u>14.5</u>				<u>12.75</u>	

**Final:**  
 Time 1227 pH 3.77 SC 1180 Temp 14.5 Eh-ORP \_\_\_\_\_ D.O. \_\_\_\_\_ Turbidity \_\_\_\_\_ Ferrous Iron \_\_\_\_\_ Vol Evac. 12.75 Comments/Flow rate \_\_\_\_\_

COMMENTS: \_\_\_\_\_

**INSTRUMENTATION:** pH Meter ☒ \_\_\_\_\_ Temperature Meter ☒ \_\_\_\_\_  
 DO Monitor ☐ \_\_\_\_\_ Other ☐ \_\_\_\_\_  
 Conductivity Meter ☒ \_\_\_\_\_

Water Disposal \_\_\_\_\_  
 Sample ID GCUA142E MW-1 Sample Time 1228 BTEX ☒ VOCs ☐ Alkalinity ☐  
 TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Ammonia ☐ TKN ☐ NM WQCC Metals ☐  
 Total Phosphorus ☐ \_\_\_\_\_  
 MS/MSD \_\_\_\_\_ BD \_\_\_\_\_ BD Name/Time \_\_\_\_\_ TB 670303-1

## Product Recovery and Well Observation Data

Project Name: San Juan Basin

Project Manager: MTN

Client Company: MWH

Site Name: GLUA 142E

Project No: 220013

Date: 3-7-03

[illegible]

COMMENTS:

Water funds

**Signature:**

Date:

3.10.03



**Certified Mail: #7001 1940 0002 1371 7676**

February 28, 2003

**RECEIVED**

**MAR 05 2003**

Mr. William C. Olson  
New Mexico Oil Conservation Division  
1220 St. Francis Dr.  
Santa Fe, NM 87504

ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION

**RE: 2002 Pit Project Annual Groundwater Report**

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual reports for the 30 remaining groundwater impacted sites that were identified during our pit closure project of 1994 / 1995.

EPFS has organized the 30 Annual Reports (Volumes 1, 2 and 3) by land type. Volume 1 contains Annual Reports for sites found on Federal land. Volume 2 contains Non Federal sites and Volume 3 contains sites on Navajo land. Of the 30 reports submitted, EPFS is requesting closure of three sites located on Navajo lands. Of the three Navajo sites submitted for closure OCD has closed the Charley Pah #4 and the John Charles #8. The Rementa et al #1 has not been closed by either agency and EPFS reiterates request for closure of this site. EPFS understands closure of groundwater sites on Navajo land falls under jurisdiction of the Navajo Nation Environmental Protection Agency and original documents have been submitted to them for review. Other Navajo sites are included in the report for your information.

Three additional sites were submitted for closure in 2002. EPFS recently has received closure on the W.D. Heath B-5. Closure approval is pending on the D Loop Line Drip and Hammond # 41A. All of these sites are included in the 2002 Annual Report.

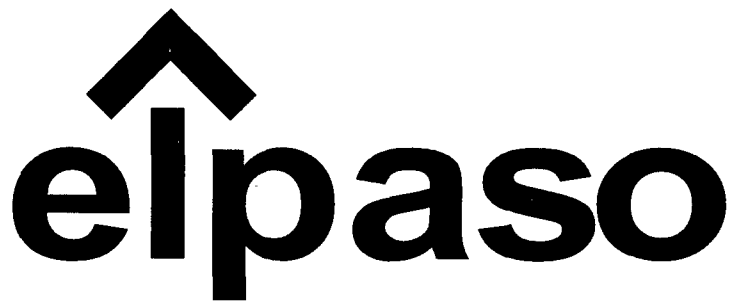
If you have any questions concerning the enclosed reports, please call me at (505) 599-2124.

Sincerely,



Scott T. Pope P.G.  
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Certified Mail # 7001 1940 0002 1371 7669**  
Mr. Bill Liesse, BLM - w / enclosures (federal sites only), **Certified Mail # 7001 1940 0002 1371 7652**



**RECEIVED**

**MAR 05 2003**

ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION

## **El Paso Field Services**

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### **San Juan Basin Pit Program Groundwater Sites Project**

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### **2002 Annual Report Non-Federal Sites (Volume 2)**

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March 2003



**MWH**

10619 South Jordan Gateway, Suite 100  
Salt Lake City, Utah 84095

# EL PASO FIELD SERVICES ANNUAL GROUNDWATER REPORT

## NON-FEDERAL SITES VOLUME II

### TABLE OF CONTENTS

#### Site Map

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
71669	State Gas Com N #1	31N	12W	16	H
70194	Johnston Fed #4	31N	09W	33	H
93388	Horton #1E	31N	09W	28	H
72556	Knight #1	30N	13W	5	A
73551	Coldiron A #1	30N	11W	2	K
03906	GCU Com A #142E	29N	12W	25	G
70445	Standard Oil Com #1	29N	09W	36	N
LD146	Lat 3B-39 Line Drip	29N	09W	10	M
LD087	K-31 Line Drip	25N	06W	16	N
94967	Lindrith B #24	24N	03W	9	N



**MWH**

MONTGOMERY WATSON HARZA

This is a detailed topographic map of the Navajo Indian Reservation in northern Arizona. The map shows the San Juan River flowing through the center, with numerous tributaries. Key towns and communities labeled include Tuba City, Hatch, Blanding, and Bluff. The map also depicts the Navajo National Monument, the Navajo Indian Reservation, and the Navajo Indian School. The terrain is rugged, with many mountains and hills shown in profile. The map is oriented with North at the top. A scale bar at the bottom indicates a distance of 3 miles. The map is titled "Navajo Indian Reservation" and "San Juan River".

3 mi Scale 1 : 600,000 Detail 8-4 Denver WGS84

3 mi Scale: 1 : 600,000 Detail: 2.4 Datum: WGS84